Dorsal scapho-lunar stabilization with Viegas' capsulodesis
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Purpose
Carpal instability begins generally with a scapholunate tear. Its repair is essential to preserve wrist function. Classical techniques, as Blatt’s capsulodesis, or Brunell’s tenodesis don’t reproduce wrist isometry and produce stiffness. Authors used a capsulodesis that seems to take in account dorsal wrist ligament isometry.

Patients and Method
From 2006 to 2012 authors operated prospectively a continuous series. It’s composed of 14 men and 12 women of mean age 38 years. Half were working accidents. All patients presented a pain, often a loss of strength, and a half part presented a loss of wrist motion or annoying crackings. The follow-up is 37 months. Viegas’ technique consists of a dorsal capsulodesis, using a transverse strip coming from the dorsal intercarpal ligament. This strip is fixed with anchors, and protected with carpal pinning and wrist cast during 8 weeks.

Results
The post-operative data are compared with the preoperative data. The flexion-extension arc decreased of 2 °. The radio-ulnar tilt increased of 22 °.

The grasp improved of 11 kgf, the pain on VAS improved of 3,3 points, the PRWE score of 60 points. Radiologically, the scapho-lunar gap decreased of 0,7 mm and the scapho-lunate angle passed from 57 to 45 °. We explore four CRPS among which three with clinical signs, one abrasion of the EPL, one superficial sepsis. Two unfavourable evolutions were taken back, one by die-punch arthrodesis, one by luno-capitate arthrodesis. In one case the scapho-lunar gap reproduced without DISI.

Discussion
Isometric Capsulodesis (transversal)
Dorsal scapholunate efficient part replacement
DIC Ligament is more resistant than dorsal scapholunate part

Discussion
It’s logical to propose a repair of the dorsal portion of the scapho-lunate ligament, which is mechanically the most efficient. By proposing a direct axial radio-carpal fixation, the Blatt capsulodesis, or Brunell’s tenodesis, both most used interventions, create an inextensible and not isometric dorsal reinforcement stiffing the wrist. Viegas proposed in 2000 a transverse dorsal scapho-lunate capsulodesis, which does not fix the radio-carpal joint and used a portion of the dorsal intercarpal ligament. Its mechanical resistance is superior to that of the dorsal scapho-lunar ligament. It can be used as reinforcement after a scapho-lunar suture. Its realization doesn’t contain important technical difficulties. The results show not much change of the flexion-extension arc after the procedure. The radio-ulnar tilt, the grasp force, the pain and the score PRWE are improved.

The results are good 24 times on 26. The Viegas capsulodesis doesn’t destabilize the carpus and doesn’t cut the bridges. The two bad cases were taken back with a partial arthrodesis.

Conclusion
This technique allows to stabilize a non directly repairable scapho-lunate tear, chronic, without fixed carpal instability, corresponding toarthroscopic EWAS stages 3 and 4.It’s suitable for Garcia-Elias grade 2-3 SL instabilities.

Consequences are generally simple, but we must beware of a CRPS, or a pin complication. The dorsal scapho-lunar Viegas capsulodesis has specifications of a reliable non stiffing stabilization in case of dynamic instability. The results are satisfactory.

References
7. Camus EJ, Vanoverstraeten L. Dorsal Scapholunate stabilization using Viegas’ capsulodesis. 25 cases with 26 months-follow-up. Chr Main. 2013 (32): 393-402